Mr. Steven St. Pierre
Greater Southside Crematory
P. O. Box 33045
Indianapolis, IN 46203

Dear Mr. St. Pierre:

Re: Exempt Construction and Operation Status,
081-15100-00027

The application from Greater Southside Crematory, received on November 30, 2001, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following emission unit, to be located at 481 West Main Street, Greenwood, Indiana 46142, is classified as exempt from air pollution permit requirements:

(a) One (1) crematory incinerator for human remains, with a maximum capacity of one hundred (100) pounds an hour, supplemented by natural gas at a rate of 1.5 million BTU/hr.

(b) One (1) crematory incinerator for human remains, with a maximum capacity of one hundred and fifty (150) pounds an hour, supplemented by natural gas at a rate of 1.5 million BTU/hr.

The following conditions shall be applicable:

(1) Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following:

(a) Opacity shall not exceed an average of twenty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

(2) Pursuant to 326 IAC 4-2-2, the crematory incinerators shall:

(1) consist of primary and secondary chambers or the equivalent;

(2) be equipped with a primary burner unless burning wood products;

(3) comply with 326 IAC 5-1 and 326 IAC 2;

(4) be maintained properly as specified by the manufacturer and approved by the commissioner;

(5) be operated according to the manufacturer's recommendations and only burn waste approved by the commissioner.

(6) comply with other state and/or local rules or ordinances regarding installation and operation of incinerators.

(7) be operated so that emissions of hazardous material including, but not limited to, viable pathogenic bacteria, dangerous chemicals or gases, or noxious odors are prevented;

(8) not emit particulate matter in excess of five-tenths (0.5) pounds of particulate matter per one thousand (1000) pound of dry exhaust gas at standard conditions corrected to fifty percent (50%) excess air;

(9) not create a nuisance or a fire hazard.

The operation of these incinerators shall be terminated immediately upon noncompliance with any of the above mentioned requirements.

This exemption is the first air approval issued to this source.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

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cc: File - Johnson County
Johnson County Health Department
Air Compliance -Vaugn Ison
Permit Tracking - Janet Mobley
Technical Support and Modeling - Michele Boner
Compliance Data Section - Karen Nowak

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for an Exemption

Source Background and Description

Source Name:	**Greater Southside Crematory**
Source Location:	**481 West Main Street, Greenwood, IN 46142**
County:	**Johnson**
SIC Code:	**7261**
Exemption No.:	**081-15100-00027**
Permit Reviewer:	**Madhurima D. Moulik**

The Office of Air Quality (OAQ) has reviewed an application from Greater Southside Crematory relating to the construction and operation of a new crematory incinerator at the site of their existing crematory incinerator.

Emission Units and Pollution Control Equipment

The source consists of the following emission units and pollution control devices:

(a) A crematory incinerator for human remains, with a maximum capacity of one hundred (100) pounds an hour, supplemented by natural gas at a rate of 1.5 million BTU/hr.

New Emission Units and Pollution Control Equipment

(a) A crematory incinerator for human remains, with a maximum capacity of one hundred and fifty (150) pounds an hour, supplemented by natural gas at a rate of 1.5 million BTU/hr.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (^{0}F)
# 1	Incinerator	21	1.5	2100	1100
A11 01	Incinerator	18	2.0	2400	1600

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on November 30, 2001. Additional information was received on December 14, 2001.

Emission Calculations

See Appendix A of this document for detailed emissions calculations.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency."

Pollutant	Potential To Emit (tons/year)
PM	3.9
PM-10	3.9
SO_2	1.4
VOC	1.7
CO	6.6
NO_x	2.9

(a) The potential to emit (as defined in 326 IAC 2-7-1 (29)) of PM, PM_{10} is less than five (5) tons, and less than ten (10) tons per year of other criteria pollutants, as well as less than twenty-five (25) tons per year of CO. Therefore, the source is not subject to the provisions of 326 IAC 2-5 and will be granted an exemption.

County Attainment Status

The source is located in Johnson County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Johnson County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant

Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Johnson County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Federal Rule Applicability

(a) The two (2) incinerators have a charge rate of less than fifty (50) tons per day each. Therefore, they are not subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.50, Subpart E).

(b) The two (2) crematory incinerators do not combust any hazardous waste as defined in 40 CFR 261. Therefore, the incinerators are not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs)(40 CFR 63, Subpart EEE).

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is not subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit less than one hundred (100) tons per year of any of the criteria pollutants.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of twenty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 4-2-2 (Incinerators: requirements)

Pursuant to 326 IAC 4-2-2, the crematory incinerators shall:

(1) consist of primary and secondary chambers or the equivalent;

(2) be equipped with a primary burner unless burning wood products;

(3) comply with 326 IAC 5-1 and 326 IAC 2;

(4) be maintained properly as specified by the manufacturer and approved by the commissioner;

(5) be operated according to the manufacturer's recommendations and only burn waste approved by the commissioner.

(6) comply with other state and/or local rules or ordinances regarding installation and operation of incinerators.

(7) be operated so that emissions of hazardous material including, but not limited to, viable pathogenic bacteria, dangerous chemicals or gases, or noxious odors are prevented;

(8) not emit particulate matter in excess of five-tenths (0.5) pounds of particulate matter per one thousand (1000) pound of dry exhaust gas at standard conditions corrected to fifty percent (50%) excess air;

The incinerators at this source have a manufacturer's guaranteed particulate emission rate of 0.039 lb of PM per 1,000 lb dry exhaust gas, corrected to 50% excess air. Therefore, they are in compliance with 326 IAC 4-2-2.

(9) not create a nuisance or a fire hazard.

326 IAC 6-3-2 (Process Operations)

Incinerators are exempt from 326 IAC 6-3-2. Therefore, this rule does not apply.

Conclusion

The operation of the crematory incinerators shall be subject to the conditions of the attached proposed Exemption 081-15100-00027

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
Company Name: General Southside Crematory
Address City IN Zip: 481 West Main Avenue, Greenwood
CP: 081-15100
Plt ID: 081-00027
Reviewer: Madhurima D. Moulik
Date: Dec 11, 2001

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
3.0	26.3

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	7.6	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.1	0.1	0.0	1.3	0.1	1.1

*PM emission factor is filterable PM only. PM10 emission factor is condensable and filterable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
HAPs Emissions
Company Name: General Southside Crematory
Address City IN Zip: 481 West Main Avenue, Greenwood
CP: 081-15100
Plt ID: 081-00027
Reviewer: Madhurima D. Moulik
Date: Dec 11, 2001

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	2.759E-05	1.577E-05	9.855E-04	2.365E-02	4.468E-05

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	6.570E-06	1.445E-05	1.840E-05	4.993E-06	2.759E-05

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emission Calculations
Incinerators

Company Name: **Greater Southside Crematory**
Address City IN Zip: **481 West Main Avenue, Greenwood, IN 46142**
CP: **081-15100**
Plt ID: **081-00027**
Reviewer: **Madhurima D. Moulik**
Date: **Dec 14, 2001**

THROUGHPUT lbs/hr	THROUGHPUT ton/yr
250	1095

	POLLUTANT				
	PM	SO2	CO	VOC	NOX
Emission Factor in lb/ton	7.0	2.5	10.0	3.0	3.0
Potential Emissions in ton/yr	3.8	1.4	5.5	1.6	1.6

Methodology

Emission factors are from AP 42 (5th Edition 1/95) Table 2.1-12, Uncontrolled emission factors for industrial/commercial refuse combustors, multiple chambers
Throughput (lb/hr) * 8760 hr/yr * ton/2000 lb = throughput (ton/yr)

Appendix A: Emissions Calculations

Total Emissions

Company Name: General Southside Crematory
Address City IN Zip: 481 West Main Avenue, Greenwood
CP: 081-15100
Plt ID: 081-00027
Reviewer: Madhurima D. Moulik
Date: Dec 14, 2001

Emission Unit	Emissions (tons/yr)					
	PM	PM-10	SO2	NOx	VOC	CO
Natural Gas Combustion	0.1	0.1	0	1.3	0.1	1.1
Incinerators	3.8	3.8	1.4	1.6	1.6	5.5
Total PTE (tons/yr)	**3.9**	**3.9**	**1.4**	**2.9**	**1.7**	**6.6**